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Of Medical Problems and Social Problems

THE RELATIONSHIPS between medicine and society have often been discussed in these columns. It has frequently been suggested that medicine has something to offer toward the resolution of many social problems when these affect health and health care, and that society needs genuine and constructive help from the medical profession if it is to deal successfully with the social and economic problems of access to and delivery of patient care. These interactions between medicine and society have occurred all too seldom. Rather the pattern seems to have been for each to square off in opposition to the other and this really has got no one anywhere. Perhaps it is time to examine some other approaches. For example, can anything be learned from the prototype model of patient care—the interactions which take place in the doctor-patient relationship—or from the way a physician deals with a complex medical problem within this relationship? After all the essential ingredients—medicine, society, health and health care—are basically the same although the dimensions are different.

If one examines what a physician does and what a patient does in the doctor-patient relationship and the approach to a complex medical problem, one indeed can see many parallels with what might be a relationship between the medical profession and society and its government, in a new kind of approach to broader social problems which affect health and health care. First it is necessary for both doctor and patient (or for medicine and society) to agree that there is a problem. Having recognized that a problem exists, an attempt is made to describe and define the problem as objectively as possible. The present illness, as described by the patient, gives some assessment of its nature and extent. The past history and social history may explain how things got to where they are and identify factors which may be important in diagnosis and treatment. The problem is then examined physically where it is, again as objectively as possible. Next measurements are made through laboratory and other kinds of studies. As accurate a data base as possible is established. Then consultations may be held and professional knowledge and experience are brought to bear to develop the diagnostic possibilities or probabilities and possible courses of action. These are then discussed with the patient, the patient's family and whoever else may be involved in carrying out the treatment process. All must be convinced that this is what should be done. Then there must be agreement among all concerned as to who is to do what in carrying out the treatment. Then and only then can a successful action program be undertaken. The later steps are to monitor progress, and to improve and refine the definition of the problem, the data base, the diagnosis and treatment. This approach continues until the problem is solved or an acceptable steady state is reached.

It would seem that there may be something to be learned from this. Would it not be reasonable to try to apply the steps and the approach of the physician-patient model just described to the relationships between medicine and society, between the medical profession and government for instance, in dealing with broad social problems affecting health and health care?

Recent events in California suggest that this may not only be possible but also feasible. The House of Delegates of the California Medical Association, frustrated in its attempts to deal with the medical malpractice crisis by direct confrontation, recognized the medical liability insurance problem to be symptomatic of a much broader social problem involving liability of all kinds and the effects our tort system of law has had upon the field of liability. The House then proceeded to set in motion a series of steps to deal with this complex social problem exactly as a physician would approach a complex problem in patient care. It caused there to be created an independent California Citizens Commission on Tort Reform (CCCTR), which found out all it could about the problem, including the present illness, the past history and the social history, and then examined this information as objectively as possible. A study was authorized to measure the number of poten-

tially compensible events occurring in California hospitals. This was called a Medical Insurance Feasibility Study. An ad hoc Committee on Tort Reform Alternatives was created within the Association to consider possible courses of action.

The next steps are yet to be taken, but will involve recommendations for action which will need to receive agreement of all who must be involved in carrying out the recommendations in both medicine and society, if the treatment is to be accomplished successfully. In this approach the medical profession has found itself in the role of physician to society, which has a problem affecting health and health care. The physician has helped in the diagnosis and treatment. But equally important, the patient, society, has, as it always should, played an equally essential role. The part played by the medical profession in this instance has been both appropriate and acceptable for physicians, and while the process is by no means completed and the outcome is still in the future, it bodes well that at long last medicine is using its professional problem-solving skills to address a major social problem affecting health and health care.

—MSMW

Technetium 99m Stannous Pyrophosphate Myocardial Scintigraphy to Detect Myocardial Necrosis

IT IS CLEAR that there are a number of different clinical circumstances in which traditional techniques that have been used for years are not adequate to conclusively identify or exclude the possibility of recent myocardial infarction. In particular, electrocardiograms (ECG) may not adequately show new myocardial infarcts in leads with "scar patterns" reflecting previous myocardial damage, in patients with left bundle branch block and in those persons in whom cardioversion recently has been done. The subendocardial region is the one most vulnerable to injury during experimental myocardial ischemia, but subendocardial ischemia cannot be precisely distinguished on ECG's from subendocardial infarction. Further, the ST and T wave changes of subendocardial injury resulting from coronary artery disease cannot be absolutely differentiated from those occurring with rapid heart rates, electrolyte alterations, left ventricular hypertrophy with strain and certain medications including—it is important to note—cardiac glycosides.

The usefulness of measuring cardiac enzymes in detecting acute myocardial necrosis, particularly the "myocardial specific" isoenzyme of creatine kinase (MB or B subunit),[1-3] is recognized but there are also certain limitations in this approach. Included among these limitations are temporal restrictions (for example, serum enzyme testing must be done within 18 to 20 hours of the onset of symptoms suggesting infarction or else the creatine kinase-MB isoenzyme value may be normal independent of the presence or absence of infarction). The MB isoenzyme of creatine kinase is often increased in sera of patients undergoing open heart surgical procedures even in the absence of perioperative myocardial infarction and, therefore, this represents another clinical situation in which precise identification of the presence or absence of infarction may be difficult.

There are then definite diagnostic limitations in the usefulness of traditional determinants for infarct recognition and consequently there is a need for more sensitive and specific noninvasive diagnostic tests. There are also additional reasons indicating the necessity to develop new noninvasive means for infarct detection and these include the desire to be able to localize and size the extent of myocardial damage occurring with infarction. Concern about infarct localization and size stems from the fact that such knowledge should help one to predict subsequent clinical course, such as heart block, cardiogenic shock, medically refractory congestive heart failure or the development of medically refractory ventricular arrhythmias.[4-6]

For these reasons, approximately three years ago a noninvasive myocardial imaging technique utilizing technetium 99m stannous pyrophosphate (^{99m}TcPYP) was developed at The University of Texas Southwestern Medical School in Dallas.[7-10] To date, this myocardial imaging test has been utilized for diagnostic purposes of infarct detection in approximately 4,000 persons admitted at our institution with chest pain.

Our general findings with this myocardial imaging technique for infarct detection are similar to those reported by Werner and his colleagues in this issue of the WESTERN JOURNAL. Specifically, we have found the technique to be useful in identifying acute transmural and nontransmural